AMENDMENTS TO THE CLAIMS:

1. (Original) An electrochemical cell, comprising a spacer pierced by an aperture which defines a cell wall, a first metal electrode on one side of the spacer extending over one side of the aperture, a second metal electrode on the other side of the spacer extending over the side of the aperture opposite the first electrode, means for admitting a sample to the cell volume defined between the electrodes and the cell wall, means for heating a sample contained within the cell, and means for measuring a concentration of an analyte or a concentration of a species representative of the analyte in the sample at a point on a reaction profile by measuring amperometrically a parameter representative of a diffusion coefficient of the analyte or the species representative of the analyte in the sample, whereby the concentration is measured and whereby the measured concentration is substantially independent of a temperature of the sample.

2. (Original) An electrochemical cell according to claim 1 wherein the means for heating a sample is an electrically resistive element.

3. Canceled

4. (Original) The electrochemical cell according to claim 1, wherein the predetermined point on the reaction profile is a steady state.

5. (Original) The electrochemical cell according to claim 1, wherein the electrochemical cell comprises a mediator, wherein the mediator comprises a species representative of a concentration of an analyte.

6. (Original) The electrochemical cell according to claim 5, wherein the mediator is an enzyme mediator.

7. (Original) The electrochemical cell according to claim 1, wherein the means for heating the sample comprises an exothermic reaction produced upon contact of said sample with at least one suitable reagent.

8. (Original) The electrochemical cell according to claim 7, wherein the at least one suitable reagent is a salt which liberates heat on dissolution.

9. (Original) The electrochemical cell according to claim 8, wherein the salt is selected from the group consisting of aluminum chloride, lithium halides, lithium sulfate, magnesium halides, and magnesium sulfate.

10. (Original) The electrochemical cell according to claim 7, wherein the at least one suitable reagent is a two component system which liberates heat upon mixing.

11. (Original) The electrochemical cell according to claim 10, wherein each of the two components are placed in separate locations in the electrochemical cell.

12. (Original) The electrochemical cell according to claim 11, wherein said two components are placed as coatings upon opposite internal cell walls of the electrochemical cell.

13. (Original) The electrochemical cell according to claim 1, wherein the means for heating a sample comprises an electrical heater.

14. (Original) The electrochemical cell according to claim 13, wherein said means for heating a sample is a current applied to resistive elements associated with said measuring means.

15. (Original) The electrochemical cell according to claim 1, wherein the means for heating a sample is capable of raising a sample temperature by from 5 to 15 °C.

16. (Original) The electrochemical cell according to claim 1, wherein the means for heating a sample is capable of raising a sample temperature to a final sample temperature within a period of 2-10 seconds.

17. (Original) The electrochemical cell according to claim 1, wherein the means for heating the sample is capable of achieving a peak sample temperature within 2-5 seconds.

18. (Original) The electrochemical cell according to claim 1, wherein the electrochemical cell comprises a glucose sensor.

19. (Original) The electrochemical cell according to claim 1, wherein the electrochemical cell comprises a glucose sensor capable of measuring a concentration of glucose in a blood sample.

20. (Original) The electrochemical cell according to claim 1, further comprising an enzyme.

21. (Original) The electrochemical cell according to claim 20, wherein the enzyme comprises glucose dehydrogenase.

22. (Original) The electrochemical cell according to claim 20, further comprising an oxidizing mediator.

23. (Original) The electrochemical cell according to claim 22, wherein the oxidizing mediator comprises ferricyanide.

24. (Original) The electrochemical cell according to claim 1, wherein the means for heating the sample comprises a resistive element.

25. (Original) The electrochemical cell according to claim 24, further comprising means of applying a potential across the resistive element to generate an amount of heat.

26. (Original) The electrochemical cell according to claim 25, further comprising means of interrupting the potential across the resistive element and applying a potential between the first electrode and second electrode to perform the electrochemical assay of the analyte.

27. (Original) The electrochemical cell according to claim 26, wherein the means of applying a potential across the resistive element is capable of maintaining the potential during an assay of an analyte at an initial level or at a lower level sufficient to substantially maintain a sample temperature of a desired level.

28. (Original) The electrochemical cell according to claim 26, wherein the means for applying potential to the resistive element is capable of measuring a current flowing through the resistive element and automatically adjusting the potential so as to maintain a required power output.

29. (Original) The electrochemical cell according to claim 28, wherein the power output is capable of being adjusted on a basis of an ambient temperature measured by a separate sensor.

30. (Original) An electrochemical cell, comprising a spacer pierced by an aperture which defines a cell wall, a first metal electrode on one side of the spacer extending over one side of the aperture, a second metal electrode on the other side of the spacer extending over the side of the aperture opposite the first electrode, a passage for admitting a sample to the cell volume defined between the electrodes and the cell wall, an electrically resistive heating element, and a measuring circuit, wherein the measuring circuit amperometrically measures a parameter representative of a diffusion coefficient of an analyte or a species representative of the analyte in the sample, wherein the diffusion coefficient is indicative of a concentration of the analyte or the species representative of the analyte in the sample, and wherein a measured value of the concentration is substantially independent of a temperature of the sample.

31. (Original) An electrochemical cell, comprising a spacer pierced by an aperture which defines a cell wall, a first metal electrode on one side of the spacer extending over one side of the aperture, a second metal electrode on the other side of the spacer extending over the side of the aperture opposite the first electrode, a passage for admitting a sample to the cell volume defined between the electrodes and the cell wall, a reagent that undergoes an exothermic reaction upon contact with the sample, and a measuring circuit, wherein the measuring circuit amperometrically measures a parameter representative of a diffusion coefficient of an analyte or

a species representative of the analyte in the sample, wherein the diffusion coefficient is indicative of a concentration of the analyte or the species representative of the analyte in the sample, and wherein a measured value of the concentration is substantially independent of a temperature of the sample.